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REMARKS

Claims 1 – 43 are pending and stand rejected by the Office Action. Applicant respectfully traverses all rejections.

Interview Summary

Applicant thanks the Examiner for taking the time for the Examiner interview conducted on January 14, 2004. The participants of the interview included Examiner Aimee J. Li, David O'Brien, and Steven R. Gilliam. The primary discussion concerned proper interpretation of the term "double compare and swap." Applicant pointed out that properly construed in light of the specification, Applicant's claim language clearly distinguished over the art of record. Examiner advanced a competing interpretation not based on the specification. While no agreement as to allowability was reached, Examiner indicated that certain clarification of the claim language, particularly recitation of the term "dual target compare and swap (DCAS)," would likely avoid problematic interpretation of the claim language. During the interview, Applicant also identified the absence in the art of record of use of a DCAS to update a data structure as particularly recited in variations of Applicant's claims. Substantive arguments made in support of Applicant's position(s) are detailed below.

§103(a) Rejections

The Office Action has rejected claims 1 – 9, 15 – 24, and 32 – 41 under 35 USC §103(a) as being unpatentable over Mark Allen Weiss's Data Structure and Algorithm Analysis in C++ Second Edition © 1999 (the Weiss reference) in view of the European Patent EP 0366585 B1 granted to Michael Edward Arnold (the Arnold reference). The Office Action has also rejected claims 10 – 14, 25 – 31, and 43 as being unpatentable over the Arnold reference in view of Douglas Comer's Operating System Design: The Xinu Approach © 1984 (the Comer reference).

Examiner has accorded little weight to Applicant's description in the specification of semantics of a double compare and swap (DCAS). Applicant has amended independent claims 1, 6, 15, 23, 32, 36, 40, and 43 to refer to "an atomic dual target compare and swap" instead of a "double compare and swap to atomically update a then-current, end identifying index for the array and an element of the array adjacent to that identified by the end identifying index," and

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has amended independent claim 10 to qualify the multi-way compare and swap as an atomic multi-way compare and swap. Applicant has similarly amended dependent claims 14 and 20. Applicant acknowledges Examiner's alternative interpretation and presents claim amendments in an attempt to more clearly recite that which Applicant believes was already a proper interpretation of claim language originally presented. No change in scope is intended and no new issues are presented that would require an additional search. Accordingly, Applicant respectfully requests allowance of all claims.

Applicant respectfully submits that none of the references, whether standing alone or in combination, disclose or suggest utilization of an atomic dual target compare and swap or an atomic multi-way compare and swap 1) to update an index of a double-ended data structure and an element of the double-ended data structure adjacent to the element indicated by the index, and 2) to provide a status indication of the double-ended data structure.

In summary, none of the references disclose or suggest, either taken alone or in combination, use, as specifically claimed, of atomic operations, such as an atomic dual target compare and swap or an atomic multi-way compare and swap in support of concurrent access operations on a data structure. Accordingly, independent claims 1, 6, 10, 15, 23, 25, 32, 36, 40, and 43 are allowable and a Notice of Allowance to that effect is respectfully requested.

Dependent Claims

Applicant respectfully traverses all rejections with respect to the dependent claims. All of the dependent claims are dependent on corresponding ones of the above allowable independent claims. Applicant respectfully submits that all of the dependent claims are allowable for at least the reasons discussed above.

Conclusion


In summary, claims 1 – 43 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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Steven R. Gilliam1/20/2004
Date

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Respectfully submitted,



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